Bridging the gap in learning with the effective use of Kahoot!: A review

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As educational instructors, one of the many ways we garner feedback from the class is through asking questions between segments of the lesson. I must admit, there were times when I felt pressured when nobody raised their hand to contribute an answer. Could it be that my students have not learnt anything from the three-hour lecture I just gave? This practice for me has often been an ineffective gauge of students' understanding, even if there were students who raised their hand to proffer an answer. Firstly, students who were quick thinkers and fully engaged with the class would often participate in answering questions and respond actively. On the downside, their willingness to answer might lead to the end of the thought process for other students who needed more time to come to a conclusion for themselves. It might have also given me, the instructor, an illusion that the entire class had fully understood the concepts I was trying to convey during the lesson.

A study by Jin (2013) on Asian students studying in an English-medium university in Asia found that students remained silent when engaged by the instructor for various reasons. Some students who were interviewed were found to be silent due to being in deep thought. Some knew the answer, but did not want to volunteer their answer as they were not proficient in the English language and were afraid of getting the answer wrong. There was also another group of students who were not engaged with the lesson and did not know how to answer (or be bothered, to say the least).

With the development of the internet and the ubiquitous smartphone which has made its way to almost every Singaporean pocket (Singapore Business Review, 2018), educators and education institutions are embracing new technologies to enable effective learning and teaching. The intention is to provide each student with "useful feedback, self-discovery through online tools, individual reflection, along with class participation and team dynamics" (Gan, Menkhoff & Smith, 2015, p. 652). The overall goal is to increase engagement with each individual student, which leads to learning.

Having students use their smartphones in class to assess their own understanding of concepts has been very important to me. I've had students taking selfies, face-timing their friends, and scrolling through social media during lessons (to name a few). How much better would it be for me to be in control of what they see on their smartphones for the sake of learning!

Introducing Kahoot!, an online platform that I have been using to address some of these issues. The beauty of Kahoot! is that it is device agnostic and can be accessed by students through an internet browser on a smartphone or laptop. Alternatively, it can be downloaded as an application through the play store. Most importantly, it is free for both students and teachers! Only the content creator is required to create an account while participants will only need to key in a customised pin number created by the system and give themselves a nickname which will appear on the instructor's screen.
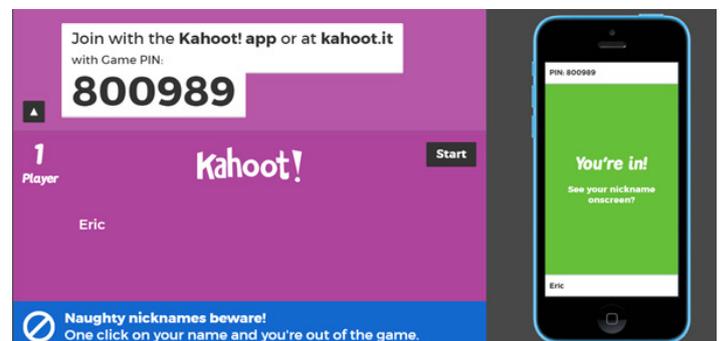

Figure 1: Logging in to Kahoot! as a participant.

Instructors can create a variety of games to be played in class to assess student knowledge and according to the creators of Kahoot!, "make learning fun, inclusive and engaging in all contexts" (What is Kahoot!, 2019, p. 1). How does it work? The content creator can choose to create a quiz, jumble (arranging various options in the right order), or a survey, to engage the audience and to elicit participation. Each individual game created is known as a "kahoot" and there are various tweakable components that allow the creator to achieve their desired purpose for running the activity. In the example of a quiz I commonly use, you can choose to award scores for participants who answered the question correctly as well as adjusting the duration each participant is given to answer each question. There is also an option to let the kahoot run by itself, proceeding from question to question automatically. The alternative would be for the instructor to control the pace of the session and answer any questions that might arise in between. This is my preferred option as

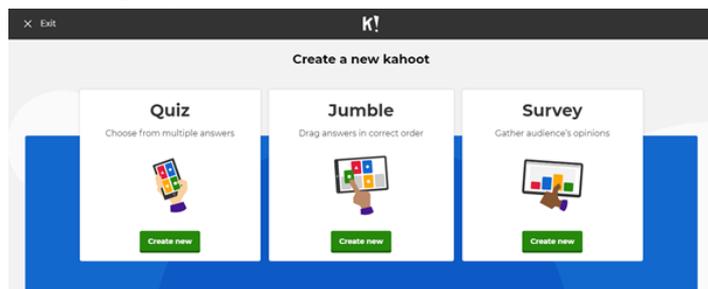it allowed me to address key concepts that students might not have grasped.

Figure 2: Different types of "kahoots" available for instructors.

Kahoot! has managed to successful gamify formative assessments in class with the clever introduction of a scoring system and intriguing soundtrack that creates a competitive environment within the classroom. A leaderboard would also appear at the end of each question, displaying the names of the top five participants with the highest scores, effectively turning the quiz into a friendly competition which students enjoy. This highly motivates the students of today to participate as games are something they enjoy playing. With their ever increasing popularity and accessibility on smartphones, everybody would have been exposed to games in one way or another. It has also been encouraging for me as the instructor to see the excited faces on students when I declare it is time for a round of Kahoot! as at times (I'm not kidding), students will shout in elation "Oh yes! I love Kahoot!" This is testament to the effectiveness of Kahoot! and what they have set out to do, making learning fun and engaging, and individualized for the student. There will nonetheless be students who do not wish to engage with the platform and choose not to participate. This would usually be a fraction of the class in which other ways must be adopted to engage them.

Figure 3: Kahoot! Leaderboard.

For those who participate, some would see it as a competition and want to let their classmates know how they had performed by keying in their real name to identify themselves. As for the other group of students who wish to remain anonymous, a fake identify is usually provided, protecting them from any potential embarrassment of being in the limelight or for getting an answer wrong. Answers are revealed at the end of every question and an individualized overall score will be provided once all the questions have been answered.

For students who performed poorly, they are given a rude awakening as to their lack of understanding and can better "perceive the gap between where they currently are and where they should be" (Biggs, 1998, p. 104). This should motivate them even more to close their gaps in learning.

Figure 4: Answer presented after each question.

Evidently, students who are engaging with Kahoot! will also not be using their phones for other purposes. It allows them to focus on the questionnaire and give the tutor undivided attention to elaborate on answers where they might have gone wrong and reinforce their knowledge. What might be even better (and I have tried this effectively in class), is to find a student on the leader board to explain the answer. In this manner, both the student who is explaining as well as the other students in the class benefit in different ways.

Kahoot! also serves as a form of informal evaluation to the instructor. By running these kahoot sessions regularly, I was able to assess whether students of a particular cohort have been receptive to my teaching methods. Should there be a time where students did not perform well for the questions I had prepared for them in Kahoot!, I would be informed of it earlier, allowing me to critically reflect on my teaching methods and whether they are suitable and effective in the learning of the students. Brookfield (1995) highlights the importance of reflecting on one's teaching practices to accommodate the various learning characteristics of different students and to adopt teaching methods to stimulate the visual, auditory, tactile and kinaesthetic learners (Ding & Lin, 2012). Although Kahoot! doesn't provide a qualitative summary of what type of learner your students are, it does give preliminary insight as to whether changes might be required in teaching delivery.

There is also an option to upgrade to the paid subscription plans of Kahoot! to "Kahoot! Plus" or "Kahoot! Pro". The paid versions allow the user to access advanced reports that can be shared between educators and administrators within an institution, and to share prepared quizzes among a group of faculty members. Additional benefits come mainly in the form of aesthetic upgrades and allows the content creator access to the Kahoot! image library to beautify their kahoot sessions further. The upgrade would make sense if Kahoot! is being incorporated into the curriculum of an educational institution supported by a strong data analytics team to analyse the results of the report. Otherwise, the free version is more than enough for instructors to make sense of the progress students have made in their class.

Despite the many great things that come with Kahoot!, there are some aspects of the platform that did raise my eyebrow. Take the survey for instance. Students are required to perform the same login procedures as the quiz and to also key in their nickname. Once the survey began, the same

tense music kicked in as the countdown timer ticked down. Students keyed in their preferred choice for the survey, frantically doing so under artificial pressure imposed by the platform. The survey results are subsequently revealed and the instructor can either choose to move on to the next survey question or to end the session.

As compared to another platform which was reviewed in a previous issue of this journal – Mentimeter (Rudolph, 2018), Kahoot! does not have the option to allow for real-time survey results to be flashed onto the screen. Also, the activity I did with my students fell a bit flat, as there is no customisable option to reveal which student might have chosen which option (unless I downloaded the analysis in the form of an excel sheet) that might have created some form of positive commotion and debate before I stepped in to facilitate discussion. The additional step of creating a nickname then felt pointless, and precious time was wasted in the classroom due to the need to start the activity together, as like the quiz.

The quiz also has some limitations. There is a limit to how many words you can squeeze into a question as well as the answer options. The content creator must be careful in crafting the questions such that the answers do not require too many words. The duration of each question must also be suitably adjusted such that they give the participants enough time to read the question, digest it, and then go through the answers before choosing their preferred option. Failure to time your session appropriately will end up giving your students too much to read with too little time to think before answering. This might result in the student answering the question based on a random guess due to inadequate time given, defeating the purpose of running the kahoot in the first place.

Nonetheless, Kahoot!'s benefits outweigh its limitations and it has been a brilliant tool in the classroom for me as a lecturer, to assess students' current level of understanding and to reflect upon the effectiveness of my teaching. The limitations did not pose too big an obstacle to me and I would still strongly encourage teachers of higher education to utilize Kahoot! as a tool to motivate and engage each and every student in the classroom or lecture theatre, and to experience the benefits for themselves.

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